

Understanding Peer Review of Software Engineering Papers—Survey and Interview Instruments

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Best Reviewer Interview Questionnaire

For your career

- How many reviews have you averaged per year, for all publishing venues (journal, conference, workshop, excluding grants)?
- Who taught you / How did you learn to do reviews?
- When did you start doing reviews?
- What tools do you tend to use most for doing reviews?
- What research methodologies are you most comfortable reviewing?

Thinking back on the conference venue that won you your most recent award

- How many reviews did you do?
- How long did you spend per review?
- How many times do you estimate you read the paper?
- In your opinion, what makes a good paper? What makes a bad paper?
- How did you approach the bidding process? Did you focus on papers that are of interest, or ones you had expertise in, or some other criteria?
- Consider the PC guidelines for this venue. What were the key guidelines? What impact did the PC guidelines have on your approach to reviews?
- Do you do different reviews for conferences and journals and workshops?
- What template do you tend to follow? For example, Summary, Pros, Cons.
- If you review software or empirical studies, how do you (if you do) validate the artifacts and claims?
- What makes a good review?

Other

- Do you agree if we make explicit your participation in this study in potential reports / publications?
- Do you agree that I share your answers (verbatim) within the team of researchers conducting this study?
- Do you know of other research of this kind?

Best Reviewer Survey Questionnaire

Introduction

You are invited to participate in a study entitled "Identifying Best Practices in Peer Review" that is being conducted by Neil Ernst, Daniel Mendez, Jeff Carver, and Marco Torchiano.

Purpose and Objectives The purpose of this research project is to survey recognised peer reviewers in the field of software engineering in order to identify common peer review practices they share. One goal is to support the research community by better understanding and sharing good reviewing practices identified through your support.

What is involved

- a 20 minute survey to fill out.
- if you desire, include your email for survey results and followup.

Data Retention and Privacy

- all answers are anonymous and no identifying information is collected. If you do provide an email, we store it separately from your answers.
- Portions of the data may end up on US hosted servers, such as private Github repositories, as we collaborate.

Voluntary Participation Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data to that point will be used unless you explicitly state otherwise. You should consult our online consent form (https://docs.google.com/document/d/e/2PACX-1vSamFvvBuD_Npk_2XP9jncfY3XRU6IR5Z9IvT5GdAiy7zxxSMhQAXLtGvCNYdupbyKnVgFdbeuz4Dr/pub).

Contacts Individuals that may be contacted regarding this study include:

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Demographics

Have you ever received an award or other special recognition as an excellent reviewer? E.g., conferences sometimes issue "distinguished reviewer awards".

- Yes
- No

[If Yes to previous question] What type of venue was this for?

- Journal
- Conference

Have you ever used peer reviews to make editorial decisions (e.g. PC Chair, Assoc. Editor)?

- Yes
- No

What paper topics in software engineering do you feel most comfortable reviewing? Select all that apply.

- Architecture and Design
- Concurrency
- Data storage
- Deployment and Operations
- Empirical Software Engineering
- Human Aspects of Software Engineering
- Human Computer Interaction
- Programming Languages
- Repository Analysis
- Requirements Engineering
- Testing
- Verification
- Other

What research strategies do you feel most comfortable reviewing? Select all that apply.

- Laboratory Experiments
- Experimental Simulations
- Judgment Tasks
- Sample Surveys
- Field Experiments
- Field Studies
- Formal Theory
- Computer Simulation
- Other

How many years have you been reviewing scientific papers?

- Less than 1 year
- 1-4 years
- 5-9 years
- 10-19 years

- More than 20 years

How many reviews have you done in the last 12 months? Count reviewing an original article and a revision as separate reviews. Do not include activities as a PC chair or editor.

	1-5	6-10	11-20	20+
Journals				
Conferences				
Workshops				

Bidding/Selecting Papers to Review

What factors influence your decision to **agree to a journal review** invitation? Drag the options to rank from most to least important.

- Current/anticipated workload
- Level of interest in article topic
- Level of interest in venue
- Personal connection with requester
- Prestige of venue
- Review timelines and due date
- Other

What factors influence your decision to **join a conference Program Committee**? Drag the options to rank from most to least important.

- Current/anticipated workload
- Level of interest in submission topics
- Level of interest in venue
- Personal connection with requester
- Prestige of venue
- Review timelines and due date
- Other

What factors influence your decision to **bid to review a conference paper**? Select all that apply.

- Affiliations (if non-blinded)
 - Authors (if non-blinded)
 - Match with your expertise
 - Personal interest, independent of the field of expertise
 - Other
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Reviewing Practices

How many hours on average do you spend per review, including reading a paper, writing a review, and entering the review?

	Less than 30 mins	30-59 mins	1-2 hours	More than 2 hours	Not applicable
Journals					
Conferences					
Workshops					

When reviewing a paper, which of the following methods is your preferred approach?

- Print the paper and make notes in the margins

- Scroll through the PDF/digital version and make notes in the margins
- Read the digital version and make notes separately
- Other

During the review, how many times do you read the paper in its entirety?

	Never, focus on sections	Once	Twice	Three or more times
Journals				
Conferences				

In general, how do you involve students as reviewers (sub-reviewers)? Select all that apply.

- Directly copy student review into the review form with no oversight from me
- Revise student review after briefly reading the paper and copy adapted version into the review form
- Student reviews separately, and we discuss our differences
- Student looks at particular sections
- I don't allow students to review papers assigned to me.
- Not applicable/Don't have students
- Other

Judging Paper Content

Place the following sections in order of importance for judging the paper. You can select each section and move it up and down to reflect your ranking.

- Abstract
- Introduction
- Background
- Method
- Results
- Conclusions
- Discussion
- Threats to Validity
- Other

How do you assess the quality and/or validity of a paper's **research method(s)**? E.g., for an interview study this might mean the paper did member checking. For an experiment quality might be influenced by the degree of control; for a proof, quality might mean it uses few unsupported axioms.

Paper Evaluation

Select one to three characteristics of papers that lead to more **negative** reviews from you.

- Topic mismatch
- Writing is hard to follow
- Overly grandiose claims
- Reasonable claims unsupported by evidence
- Difficult to understand methodology
- Mismatch of method with claims
- Hard to read figures
- Spelling errors
- Missing related work
- Other

Select one to three characteristics of papers that lead to more **positive** reviews from you.

- Interesting problem
- Clear writing
- Citations to my work
- Clear and supported validation
- Novelty
- Industry relevance
- Other

In general, what impact do PC guidelines have on your conference reviews?

- Little impact: I pay them little to no attention.
- Moderate impact: I consider the overall aim, but not the detailed templates.
- Big impact: I strive to make my review comply in every way with the PC guidelines.

If you review papers describing datasets or software tools, how do you validate the artifacts and claims?
Select all that apply.

- I check for data availability
- I check for data consistency
- I attempt to run the source code/container etc. on my machine
- I carefully calibrate my epistemological perspective with the authors
- I demand and/or access data, scripts, and experimental package
- I do not validate these artifacts.
- I do not review these types of papers
- Other

Review Tools/Infrastructure

Evaluate the following conference PC chair tools according to how easy they are to use as a **reviewer**.

	Extremely easy	Somewhat easy	Neither easy nor difficult	Somewhat difficult	Extremely difficult	Never used
EasyChair						
CyberChair						
HotCRP						
Other						

Which of the following reviewing models do you most prefer? Choose one.

- Single blind (reviewers are anonymous to authors)
 - Double blind (author identities and reviewer identities are hidden)
 - Triple blind (double-blind, plus reviewers are anonymous to each other)
 - Fully open (open, non-anonymous reviews)
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Overall Perceptions

For the following statements, do you agree or disagree with how it proposes to recognize reviewer effort?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	No recognition needed
Reviewing is community service, done for its own sake						
The best reviewers should be recognized with non-financial awards						
Reviewers should be paid money						
Reviewing is a virtuous cycle, since reviewers are themselves authors						
A public listing on a journal or conference website is sufficient						
Other						

In your opinion, what is the one characteristic that most determines an impactful scientific paper?

- Novelty
- Empirical validation
- Technological content
- Practical relevance
- Compliance with standard template for the topic/type of study/community
- Rigor and methodological soundness
- Other

[If you have used peer reviews to make editorial decisions] When editing/PC chairing, what review property has the most influence on your decision on the paper?

- Thorough critiques
- Specific critiques

- Justified critiques
- Balances critique and praise
- Other

The quality of a **typical** review you see in your discipline is:

	Extremely good	Somewhat good	Neither good nor bad	Somewhat bad	Extremely bad
Conferences					
Journals					

If you could make one recommendation to authors to increase acceptance chances, what would it be?

- Spend more time writing the paper
- Make your writing simpler
- Make your contribution clear
- Make the new result evident
- Explain related work in detail
- Show how your results are validated
- Improve basic English grammar and syntax
- Make figures more legible
- Other

Content of Review

A good peer review is: (order from most to least important)

- **Kind** (*uses a friendly or polite tone throughout and phrases all criticism gently*)
- **Helpful** (*offers suggestions or ideas for how to make improvements for all or nearly all points of substantial criticism*)
- **Factual** (*provides justification/explanation for all or nearly all points of substantial criticism in such a way that authors are likely able to accept the criticism*)
- **Thorough** (*discusses all aspects of the article worth discussing instead of only some of them*)
- **Specific** (*always clear as to what section of the paper a critique applies*)
- **Proportionate** (*visibly allocates more weight to important points of criticism and praise than to unimportant points*)
- **Detailed** (*mentions several non-trivial points of criticism and of praise, not only one of these*)
- **Other:**

How important is it for you to provide each of the following items in your review?

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Summary of the paper					
Points in favor / Pros					
Points against / Cons					
Typographic errors					
Clarity of presentation					
Clarity of figures					
Grammatical mistakes					
Significance					
Soundness					
Verifiability / Reproducibility					
Bibliographic errors					
Missing related work					

Closure

Thinking about your role as a paper **author**, what is the most important aspect of a high quality peer review?

Is there anything else you would like to share with us?

Would you like to be informed of the results? If so, please enter your email address below.
